

# PSYCHOLOGY 456

## Theory of Mind

Winter 2018  
Tu: 11:30–1:00; F: 1:00–2:30  
M. Sabbagh  
sabbagh@queensu.ca

### Learning Objectives

- Define “theory of mind” in terms of its key constructs and distinguish theory of mind from other forms of social intelligence
- Identify the key ways in which theory of mind understandings are measured in young children, and how performance on these measurements change with development
- Catalog different factors that can affect theory of mind understanding as it develops over the preschool years.
- Critically evaluate different theories for theory of mind development at different ages, and assess these theories with respect to the extant literature
- Assess the hypothesis that theory of mind understandings are important for the development of both pro-social and anti-social behaviours in children and adults
- Apply knowledge of theory of mind concepts, and our understanding of their development and relations with social behavior, to characterize social difficulties in cases of internalizing and externalizing disorders of childhood and adulthood

### Course Outline

Theory of mind is the everyday understanding that people do things because of their mental states such as intentions, beliefs, and desires. We call it a “theory” because we cannot see these mental states — they are theoretical constructs. These theoretical constructs, though, are powerful and allow us to understand the proximal causes of human behaviour. Using our theory of mind, we can both

explain what a person has done, and predict what that person will do in the future. Some researchers and theorists use the term “folk psychology” to describe theory of mind. It is our everyday, non-scientific, understanding of the basic psychological mechanisms that cause everyday behaviour.

For some time now, developmental psychologists have been studying the developmental timetable and trajectory of young children’s theory of mind. Hundreds of studies have been published investigating young children’s understanding of psychological states and how they affect behaviour. This literature is diverse yet coherent, and arguably we know more about this one particular aspect of human cognitive development than any other. Because of its richness, researchers have used theory of mind as a window on children’s cognitive development more generally; as the basic phenomena that constitute theory of mind reasoning are gradually uncovered, so too are fundamental insights into the very mechanisms by which development takes place. Clinicians have also found that the theory of mind framework is a useful one for understanding disorders that are particularly associated with social-cognitive difficulties. Thus, theory of mind development is not only an interesting topic of study, it is also of practical importance.

## **General Structure of the Course**

The course will be divided into two modules, each comprising 6 weeks of the class.

### **Module I: Weeks 1–6**

In the first module, we will learn how researchers conceptualize theory of mind, and the developmental trajectory of theory of mind concepts in young children. In each case, we will gain exposure to important general issues that face developmental psychologists, such problems of interpreting children’s behaviour in experimental tasks, characterizing theoretical mechanisms of development, and understanding the interplay between biology and experience in shaping development.

For each class during this module, we will have a reading or two that students will be expected to have read in advance and composed a short, informal “reaction” thought for (see attached). I will make a brief presentation on the article, highlighting what I think are key points. After about 20 minutes, we will then turn to a discussion phase. For the first 30 minutes of the discussion phase, students will spend time in groups discussing the questions and “reactions” that each student brought along. For the second 30 minutes, I will ask a spokesperson for the group (a different one each day) to share back with the class something that emerged from the discussion as particularly interesting, puzzling, or noteworthy.

At the end of week 4, I will assign four essay questions related to the material that is covered in the first module. Responses to these essay questions will be due on the last day of week 6, Friday Feb 17.

## Module II

In the second module, we will build on the basics acquired in the first module to explore how a theory of mind perspective can help us to understand children's developing abilities to negotiate a host of everyday social challenges.

To achieve these goals, students will work throughout the module in a group. Each group will tackle one of six challenges and be responsible for three main goals — a) conceptualizing through how a theory of mind perspective on the challenge might be useful, b) finding and reviewing the extant literature that may speak to whether theory of mind skills are related to the challenge, and c) identifying future directions for research on the topic.

The ultimate product for the group will be to co-author a review article like those that are published in a general psychology journal called *Trends in Cognitive Sciences*. There are many examples of what these kinds of papers can look like and I will go over one in detail for the class. Typically, TiCS papers comprise approximately a 3000 word organized essay review that is accompanied by figures and “boxes” that provide succinct summaries of research paradigms, a general pattern of research findings, or a specific study's worth of data from a paper that illustrates a key phenomenon. The reason for choosing this format in particular is a flexible one with many options for creatively and clearly communicating important information to a broad population.

In the first two weeks (7 & 8), we will take class time for group work to conceptualize the paper. The goal is that by the end of these first two weeks, groups will submit to me a basic outline for their review papers, and a detailed plan for how the work will be divided evenly among the members of the group.

In the next week (9), I will ask each group to make a 15-20 minute presentation to the class that describes their challenge and sketches out the broad topics that they will be researching. In essence, this should be a relatively detailed presentation of the introductory material for the paper, but then only an outline on the literature review that they will be doing for their paper. The purpose of this presentation is twofold. First is to encourage all groups to present their outline in a succinct way that can be communicated clearly to the group. Second is to communicate material that a given group is working on to the rest of the students in the course. I am not expecting students to present research findings at this point, and I will also ask groups to be particularly mindful of the time restrictions. Of course, I expect that during these weeks students will continue working on their research and writing outside of class hours.

In week 10 and then part of week 11, we will have more time for group work. It is my hope that members of the group will have rough drafts of their contributions to the TiCS article and will thus have the opportunity to get constructive feedback on the ideas and writing from their other group members. By the end of this period, the article should have its basic form, even if it's rough.

At the end of week 11 and for all of week 12, we will have two groups per class

make presentations to communicate the results of their research. This presentation should remind the class of the introductory material that was presented in week 9 and then delve more deeply into the research that they have done. As with the first presentations, the purpose is to encourage groups to make progress toward their goals while communicating material to the rest of the students in the course. Presentations can be up to 30 minutes long each (inclusive of discussion time), and we will leave some time at the end for the rest of the students in the course to evaluate what they have learned.

Each group's review paper will be due on the Monday April 10, which is the first Monday after classes officially end. Only one paper will be submitted along with a *detailed description* of the work that each person in the group did, agreed upon and attested by each member of the group.

## Late Policy

Late work will be accepted but its mark will be discounted by 20% for each 24 hour period it is late. Exceptions to this policy are if serious extenuating circumstances prevented you from completing the work, or if we have a prearranged agreement. Please do not hesitate to communicate with me regarding any difficulties you may be having completing the course material to your standards on time.

## Grading Scheme

### Assessment for Module 1

- 35% — Reading response papers
- 25% — Discussion participation
- 45% — Essay Questions

### Assessment for Module 2

- 20% — Quality of contribution to group work as apparent to me and rated by members of the group
- 30% — Quality of contribution to the presentations
- 30% — Quality of unique contribution to the review paper
- 20% — Contribution to the overall quality of the review paper as apparent to me and rated by members of the group.

## Grading Method

All components of this course will receive numerical percentage marks. The final grade you receive for the course will be derived by converting your numerical course average to a letter grade according to Queen's Official Grade Conversion Scale:

Grade	Range
A+	90–100
A	85–89
A-	80–84
A+	77–89
B	73–76
B-	70–72
C+	67–69
C	63–66
C-	60–62
D+	57–59
D	53–56
D-	50–52
F	<50

## Academic Integrity

Queen’s students, faculty, administrators and staff all have responsibilities for supporting and upholding the fundamental values of academic integrity. Academic integrity is constituted by the five core fundamental values of honesty, trust, fairness, respect and responsibility (see [www.academicintegrity.org](http://www.academicintegrity.org)) and by the quality of courage. These values and qualities are central to the building, nurturing and sustaining of an academic community in which all members of the community will thrive. Adherence to the values expressed through academic integrity forms a foundation for the “freedom of inquiry and exchange of ideas” essential to the intellectual life of the University.

Students are responsible for familiarizing themselves with and adhering to the regulations concerning academic integrity. General information on academic integrity is available at [Integrity@Queen’s University](mailto:Integrity@Queen's University), along with Faculty or School specific information. Departures from academic integrity include, but are not limited to, plagiarism, use of unauthorized materials, facilitation, forgery and falsification. Actions which contravene the regulation on academic integrity carry sanctions that can range from a warning, to loss of grades on an assignment, to failure of a course, to requirement to withdraw from the university.

## Accessibility & Accommodation

Queen’s University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a disability and think you may need accommodations, you are strongly encouraged to contact

Student Wellness Services (SWS) and register as early as possible. For more information, including important deadlines, please visit the Student Wellness website at: <http://www.queensu.ca/studentwellness/accessibility-services/>

## Extenuating Circumstances

The Senate Policy on Academic Consideration for Students in Extenuating Circumstances (<https://tinyurl.com/yaj7be64>) was approved in April, 2017. Queen's University is committed to providing academic consideration to students experiencing extenuating circumstances that are beyond their control and which have a direct and substantial impact on their ability to meet essential academic requirements. The Faculty of Arts and Science has developed a protocol to provide a consistent and equitable approach in dealing with requests for academic consideration for students facing extenuating circumstances, which can be found at: <http://www.queensu.ca/artsci/accommodations>

## Course Schedule and Readings for Module I

### Week 1: What is a theory of mind?

Tuesday, Jan 9: Introduction to the class and create groups

Friday, Jan 12: Social intelligence & social cognition

MacLean, E. L., Herrmann, E., Suchindran, S., & Hare, B. (2017). Individual differences in cooperative communicative skills are more similar between dogs and humans than chimpanzees. *Animal Behaviour*, 126, 41–51. doi: 10.1016/j.anbehav.2017.01.005

### Week 2: Diagnosing Theory of Mind in Children

Tuesday, Jan 16: The “false belief task”

Wellman, H. M., Cross, D. & Watson, J. (2001). Meta-analysis of theory-of-mind development: The truth about false belief. *Child Development*, 72, 655–684.

Friday, Jan 19: False belief in younger children and infants

Scott, R. M. & Baillargeon, R. (2017). Early false-belief understanding. *Trends in Cognitive Sciences*, 21, 237–249. doi: 10.1016/j.tics.2017.01.012.

Heyes, C. (2014). False belief in infancy: a fresh look. *Developmental Science*, 17, 647–654.

### **Week 3: Executive functioning and theory of mind**

Tuesday, Jan 23: Overview

Devine, R. T. & Hughes, C. (2014). Relations between false belief understanding and executive function in early childhood: A meta-analysis. *Child Development, 85*, 1777-1794.

Friday, Jan 26: Expression/Emergence

Carlson, S. M., Claxton, L. J., & Moses, L. J. (2015). The relation between executive function and theory of mind is more than skin deep. *Journal of Cognition and Development, 16*, 186-197.

Benson, J. E., Sabbagh, M. A., Carlson, S. M., & Zelazo, P. D. (2013). Individual differences in executive functioning predict preschoolers' improvement from theory-of-mind training. *Developmental Psychology, 49*, 1615-1627.

### **Week 4: Broader Conceptualizations**

Tuesday, Jan 30: Before false belief

Peterson, C. C., Wellman, H. M., & Slaughter, V. S. (2012). The mind behind the message: Advancing theory-of-mind scales for typically developing children, and those with deafness, autism or Asperger syndrome. *Child Development, 83*, 469-485.

Lizkowski, U., Carpenter, M. & Tomasello, M. (2008). Twelve-month-olds communicate helpfully and appropriately for knowledgeable and ignorant partners. *Cognition, 108*, 732-739.

Friday, Feb 2: After false belief

Lagattuta, K. H., Kramer, H. J., Kennedy, K., Hjortsvang, K., Goldfarb, D. & Tashjian, S. (2015). Beyond Sally's missing marble: Further development in children's understanding of mind and emotion in middle childhood. *Advances in Child Development and Behavior, 48*, 185-217.

### **Week 5: Biological Bases of Theory of Mind**

Tuesday, Feb 6: Brain Development

Gweon, H., Dodell-Feder, D., Bedny, M., & Saxe, R., (2012). Theory of mind performance in children correlates with functional specialization of a

brain region for thinking about thoughts. *Child Development*, 83, 1853-1868.  
doi: 10.1111/j.1467-8624.2012.01829.x

Friday, Feb 9: Neurobiology & Temperament

Sabbagh, M. A. (2016). Dopamine and theory of mind in preschoolers. In J. Sommerville & J. Decety (Eds.) *Social Cognition: Development across the lifespan*.

Mink, D., Henning, A., & Aschersleben, G. (2014). Infant shy temperament predicts preschoolers' theory of mind. *Infant Behavior and Development*, 37, 66-75. doi: 10.1016/j.infbeh.2013.12.001

## **Week 6: Experience**

Tuesday, Feb 13: Conversation and mental state talk

Devine, R. T., & Hughes, C. (2017). Let's talk: Parent's mental talk (not mind-mindedness or mindreading capacity) predicts children's false belief understanding. *Child Development*. doi: 10.1111/cdev.12990

Friday, Feb 16: Siblings and Peers

Paine, A. L., Pearce, H., van Goozen, S. H. M., de Sonnevile, L. M. J., & Hay, D. F. (2018). Late, but not early, arriving younger siblings foster firstborns' understanding of second-order false belief. *Journal of Experimental Child Psychology*, 166, 251-265. doi: 10.1016/j.jecp.2017.08.007

## **Schedule for Module II**

### **Weeks 7 & 8: In-class group work**

Outlines for review papers and detailed plans for dividing work equally are due at the end of class on **Friday, March 9**.

### **Week 9: Introductory Presentations**

Although this week we will have group presentations in class, I am assuming that everyone will be continuing their work on their contributions to the review papers outside of class. This will include doing the research, integrating thoughts, and beginning work on a rough draft of their contribution.

Tues, Mar 13: Presentations from groups A, B, & C.

Fri, Mar 16: Presentations from groups D, E, & F.



### **Week 10: In-class group work**

Group members should be circulating rough drafts of their unique contributions to the review paper to other group members for feedback, editing, and integration into the whole paper.

### **Week 11 & 12: Final Presentations**

In-class group work Continuing from the goals of week 10.

Friday, Mar 30: Groups A & B

Tues, Apr 3: Groups C & D

Friday, Apr 6: Groups E & F